



Trusted by Professionals Since 1989



MATRIX V

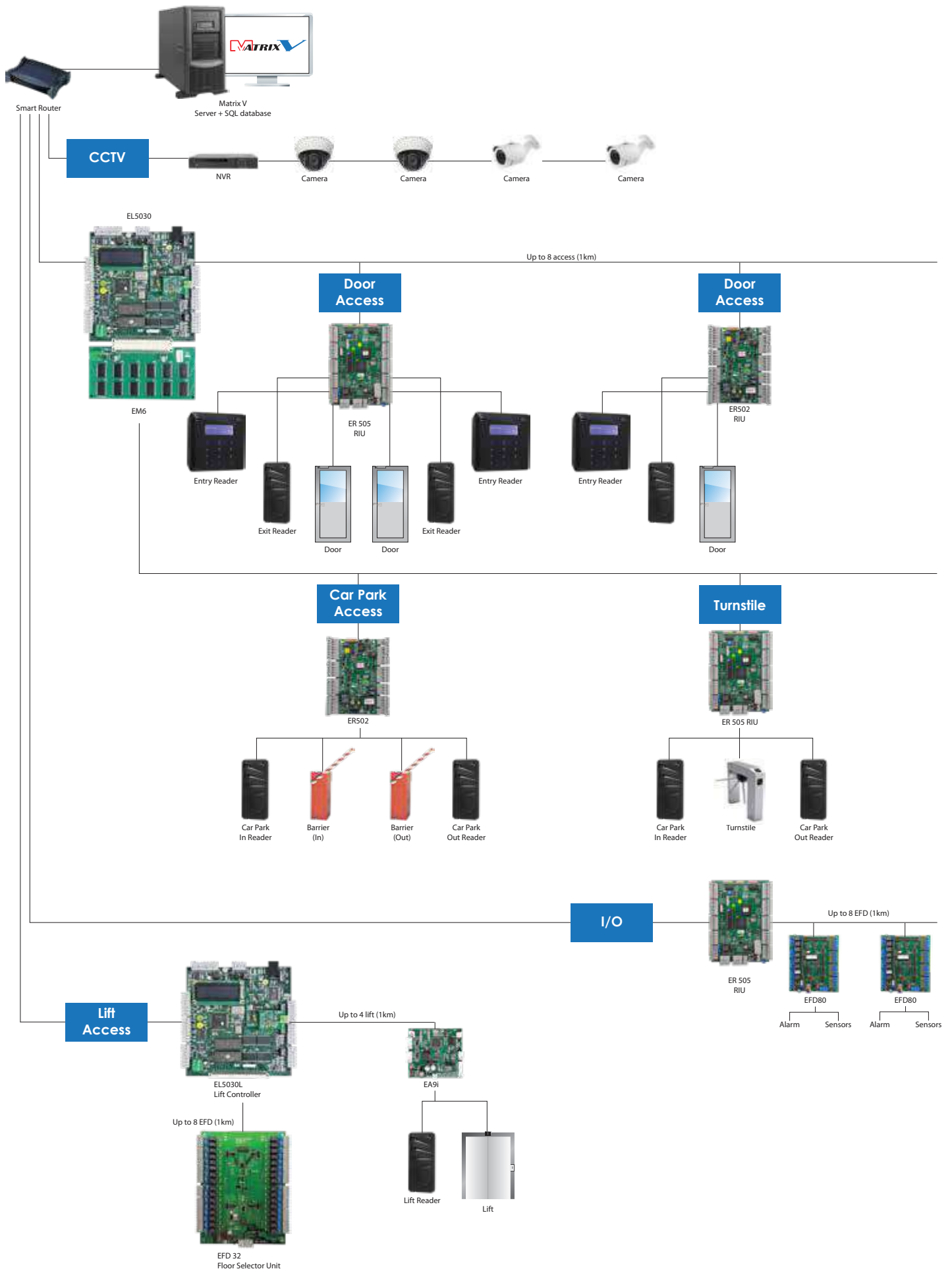
Integrated Security Management System

The Matrix V Integrated Security Management System (ISMS) is ELID Sdn Bhd's premier enterprise-grade security management system for advanced security needs. It is suited for large-sized, complex areas equipped with high level encryption on TCP/IP Local Area Network infrastructure, with a high level of regular/visiting human traffic and requiring only the highest quality in security management. Examples of such areas include high-rise intelligent buildings, airports and government centers.

Matrix V takes advantage of the 5000 series Advanced Multi-door Controller, ELID's state-of-the-art, multi-purpose, TCP/IP network-ready multi-door multi-function Controller. It is capable of numerous security management functions previously available only in separate component systems. Now, you can manage human traffic, lift access, alarm monitoring, door access, CCTV video surveillance, car park access, lobby flap barriers/turnstile, visitor management and many other functions, all through a single 5000 series Controller. Each Controller comes equipped with a powerful, high-speed 32-bit microprocessor and a large memory space for the storage of data for up to 300,000 user cards on board, plus Time Zones, Timers, PIN Code data, etc.

Matrix V system software extends the 5000 series advanced multi-door multi-function Controller's stand-alone functionality with numerous value-added software modules, enabling you to manage your security system more easily and efficiently than ever before. Matrix V manages up to 1,000 5000 series advanced multi-door multi-function Controllers and multiple ISMS client workstations supporting 64 simultaneous logins, distributed over a single or multiple remote areas connected over a TCP/IP network. This translates into maximum of 8,000 doors, 8,000 remote field devices (144,000 sensor input points and 280,000 control output points). Its wide capabilities make it suitable for even the largest, most complex building architectures, and even across countries and regions, in the most demanding security requirements

System Configuration



Seamless Multi-Site Management

Leveraging On Network and Internet Capability

Manage your entire security system over a TCP/IP network or even remotely over the Internet through a PC client native app or HTML web browser. Leveraging on any existing LAN or WAN, helps with cost savings on special cabling and implementation time. Network Specialist will then be able to manage and securely configure the network according to the corporation security policies. Simultaneously control multiple 5000 series Controllers and their controlled field devices, card readers, alarms, etc. by simply plugging them into your TCP/IP network. Matrix V supports direct control over all readers, field devices and input/output points compatible with ELID's 5000 series Controller as well as system access from up to 64 simultaneous client workstations connected locally or remotely through a TCP/IP network.

Unrivalled Security Power

Made-to-Fit

Matrix V possesses a scalable system architecture, in terms of both hardware and software. A single controller can control a maximum of up to 16 door readers, 208 input and 344 output points (with the appropriate number of Reader Interface Units and Remote Field Devices as required for a particular system configuration). More controllers may be added as needed - up to 8,000 access portals per Matrix V system. New components may be added as necessary to meet the expanding needs of a growing or security threats to an organization.

In terms of software, numerous additional modules such as Visitor Management or Guard Patrol Tour functions may be activated to the standard functionality of Matrix V as needed. Also, customized system interfaces may be introduced to Matrix V to meet the particular needs of certain third party systems such as fire control systems, building automation systems, etc. Matrix V is thus highly scalable, and can be made to fit to individual security needs of any organization.

Matrix V software is fully compatible with all the card and biometric reader, reader interface units and remote field devices compatible with the 5000 series Controllers. From Infrared Sensors and Motion Detectors to RFID Card Readers and Biometric Scanners, Matrix V possesses the most advanced functionality to meet any security need today.

Powerful Intuitive Graphic User Interface

Matrix V software is equipped with a Microsoft Windows-based GUI point-and-click interface. Perform powerful commands on your security system from your client workstation with just a few clicks of your mouse. Your security system interface is displayed as an interactive image of your floor plan, with a menu of icons. This security interface animates whenever one or even multiple simultaneous activities occur on your security system, be it a door opening on the 22nd floor or a vehicle entering the building at the basement car park gantry. Events that would generate an alert such as a door forced open or a fire alarm will create more attention-grabbing effects such as flashing colours, more dynamic animations, sound effects, pop up message boxes giving alert details, etc. Click directly on icons in the interactive security interface for more details of different areas of your security system as well as to send commands to the various devices in your security layout.

Instantaneous and Accurate Reporting Features and Secured Data Storage

Every Matrix V module contains powerful audit and transaction logging and database look-up features that can collect, sort, compile and store millions of transactions from all modules daily for analysis. For example, every card access attempt, and details including where, when and who's card was used, is automatically stored in the security system database. Stored data is maintained at a fully shared and integrated relational database system based on Microsoft® SQL Server or Oracle® Database, that is compatible with any ODBC-compliant SQL database engine. Reports can be generated on demand with a simple mouse click. Customized Reports is also available upon request.

Total Integrated Solution

Integrated Modules

Matrix V Core

Security Manager



Door Access Management



Car Park Access Control



Real Time Intrusion Alarm Monitoring



Lift Access Control

Additional Modules



Visitor Manager



Facility Manager



Broadcast Manager



ID Card Maker



Time Attendance



Guard Patrol



Mobile Alert Email



Mobile Alert SMS



Enterprise

Total & Comprehensive enterprise security

Total Solution Suite

Door Access Management

Maintain total control and surveillance of all door access in your secure areas directly from any of the unlimited client workstations. All door access activity is transmitted directly to your computer screen. You can also give specific commands to doors such as opening and closing them directly, sealing them off from further access, etc.

Features include:

Anti-Passback Function - Anti-Passback enforces users who enter a secure area with a card to leave the area before the card may be used to enter that secure area again.

Inhibit Access and Permanent Lock Release - Permanently lock and unlock particular doors instantly on demand in response to specific events such as an escaping thief or a fire that demands immediate evacuation.

Special door configurations such as dual card mode, where in order to access a door, a higher level "escort" card is required, and interlock configurations, where one has to enter close one door before another door ahead will be unlocked.

Mixed Mode Capability

The same Keypad and Display reader used for Door Access can also be utilised as a Time Attendance & Reasoning Terminal. For every Late In, Early Out clocking, up to 20 reasoning code labels can be displayed on the Keypad LCD and selected by the Users. This enables Human Resource to enable users to self justify the reason for his or her tardiness.

Lift Access Control

Lift access may be restricted according to the access rights of a particular lift access cardholder to access particular floors. Unauthorized floor entry is restricted at the lift car level, as restricted floors buttons will be rendered inoperative. In addition, floor call overriding can be enabled to give lift usage priority to very important persons (VIP) such as Executive Officers, visiting dignitaries, etc.



Matrix V now provides full support for Button-less Lift Destination Control System (DCS) that incorporates desired destination floors selection with a card to significantly improve lift efficiency and convenience.

Car Park Access Control

Control access to a car park through the use of User ID Cards at the car park gantry areas.

Matrix V User and Visitor Cards can be used to gain access to car park gantries. Anti-Passback applies to vehicles as well - once a card has been used for entry it can only be used to exit. This is to prevent multiple vehicles from using the same card to enter the car park area.

Monitor vehicle traffic and directly control the gantry from the client workstation.



- Log vehicle traffic according to Card ID, dates, entry and exit times, etc.
- Video and Photo snapshots of each vehicle traffic according to location, entry and exit times
- Issue commands such as opening and closing the gantry for special occasions, such as to facilitate the entry of a convoy of delivery vehicles quickly.
- Integration with Number Plate Recognition System (NPR) such that the Driver Card ID & Vehicle Number must match up before granting entry or exit.

Detect & Alert

Receive on-screen or mobile alert messages regarding security breaches on your security system, such as unauthorized intrusions or device tampering, as well as a map of the immediate vicinity of the alert highlighting the location (s) of the occurrences directly on your computer screen in real time as they occur. This helps you response time and assists you in organizing and implementing a response such as contacting the police or deploying security personnel to the scene.

Third Party Integration

Third party systems to be integrated to Matrix V to become a total integrated knowledge solution by implementing any of the following methods;

- OPC® Alarms & Events (A&E) Standards
- Matrix V API and SDK
- Transactions push & sharing via TCP/IP connection
- Matrix V Interfacer software

Enterprise

Matrix V Enterprise Module supports centralized online monitoring of an established group of Matrix V sites. A system user will be able to log into any selected linked Matrix V database sites via an authorized login to centrally monitor online transactions, and this includes selective alarms.

For convenience, it provides both basic card database management and reporting which can also be saved in preferred format such as QuickReport format (.QRP), text format (.TXT), Excel format (.CSV), or HTML.

Visitor Management System

User has an option to use standard visitor management module or web-based visitor management module (eVisitor). Both module manage a large volume of visitor traffic through your premise quickly, easily and accurately.



- Create and assign visitor cards instantly on demand.
- Keep track of visitor locations, areas visited, visitor population in a secure area, etc
- Restrict Access to sensitive areas based on security areas, floors or even particular doors.
- Analysis of visitor movement can identify popular routes and visitor destinations.
- Touch screen self-service kiosk station for automatic card issuance

Mobile Alert E-mail

This is useful for passive tracing or monitoring purposes. It allows registered personnel(s) to receive alert messages in the form of an e-mail whenever a pre-determined alarm/activities occurs within the boundary of the Matrix V system. It supports scheduled reporting whereby report settings can be pre-defined, and correspondingly sent to registered personnel(s) according to defined schedules.

Unlimited Matrix V users can be registered into the module with valid e-mail addresses and they can be categorized individually or as group.

Broadcast Manager

Allows brief messages to be left for particular cardholders as they access card reader points. The message is displayed on the accessed card reader's LED/LCD display upon the recipient(s) swiping his/her card on the card reader. This system is similar to the Short Message Service (SMS) used with mobile phones and can be very useful alternative method for the proliferation of urgent short messages to one or a number of personnel within a large building quickly.

Time Management

Users coming and going from work have their access times logged at the card reader entrances and exits of their work areas. This enables human resource personnel to notice personnel access behavior such as promptness, tardiness, early out, overtime, absenteeism, lengthy breaks, incomplete entries (i.e. an out entry but no in-entry, an in-entry but no out-entry), abnormal permissible movement (i.e. a person from Accounting and Finance in the R&D Department, etc.).

Guard & Patrol

Guard Patrol Touring is an additional security feature involving the close monitoring of guard patrol movement through their assigned routes in security areas. During a Guard Tour, patrolling guards swipe their Guard Tour cards at specific card readers along their tour, which register on the security interface. Each Guard Tour has a strict schedule, with a list of periods during which the patrolling guard must swipe the Guard Tour card at a particular Tour card reader. If a guard is late at swiping, or misses swiping a card reader along the tour, it is automatically assumed that the guard may have run into some kind of trouble and an alert will be activated, informing other security personnel.

Photo ID Module

Design and create your own unique card layout. Cards may also be optionally created with a photo of it's assigned cardholder printed onto the card. This photo can be acquired easily using a digital video camera linked to the ID Card Maker Badging System. ID cards provides the visual identification of personnel in your building.

Mobile Alert GSM

Mobile Alert GSM enables the instant sending of selected events to registered personnel(s) via a GSM (Global System for Mobile communication) handset in the form of SMS (Short Message Service) within the Matrix V System's boundary.

It also allows authorised personnel(s) to operate a limited number of Door Access Control and Alarm Monitoring Functions by using their mobile phones through SMS.

Facility Manager

Facility manager is used to maintain and manage rooms (meeting rooms, function halls), facilities (sports, recreational) and control the access these different areas for predefined groups of people in multi-room and area facilities. The administrator will be able to control, Access & duration for any of the facility is booked for. Facility manager helps the administrator or booking manager to pre-book events & issue booking slips and have an overview of all events in the facility to prevent double booking and managing events throughout the facility.

Interfacing for Intelligent Integrated Solutions

Matrix V can be customized for interfacing with virtually any 3rd party system.

- Implementing OPC® Alarm & Event (A&E) Standard for integration with Building Management System. OPC® is the world standard in implementing process automation.
- Communicate via Matrix V APIs for high level interface to Business Solutions (i.e HR Solutions, ERP, etc)
- Export data/transaction log files into text format for use with spreadsheets/Crystal reports software.
- Communicate directly and interface with 3rd party systems sharing the same protocol through the TCP /IP network.
- Hard-wire third party systems and devices such as building automation systems and fire supervisory systems to input/output points controlled by the 5000 series Controller. Such systems can then be activated through Matrix V via dry contact relays.

Robust and Reliable Operating Platform for Data Management & Sharing

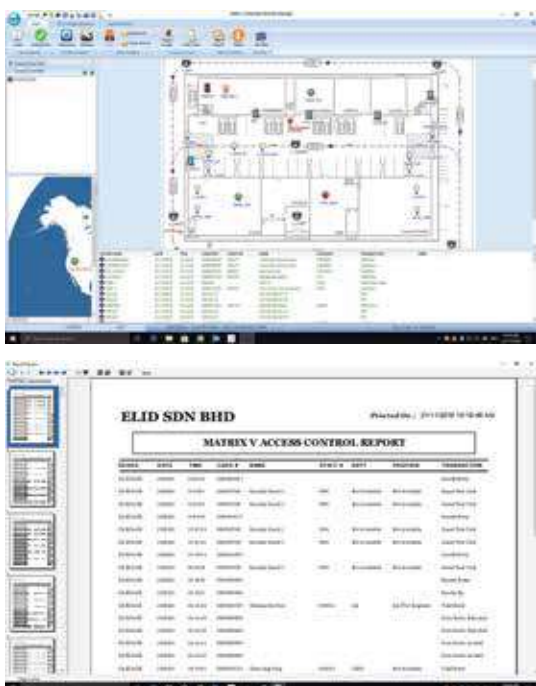
Matrix V is built around the powerful and reliable Microsoft® Windows Server with Microsoft® SQL Server or Oracle® Database Server platforms, which offers numerous advantages:

- Worldwide usage & support.
- Compatible with various third-party software/hardware and alternate operating systems.
- Facilitates easy data sharing between applications on the same platform.
- Helps eliminate redundant data entry, inconsistent data on different databases and incompatible report formats.

An example of Data Sharing would be sharing Staff Credentials from an existing HR Software to Matrix V Software.

Design Your Security System in Accordance to Your Building Policies

- Enhanced Global Anti-passback: Design your own Anti-passback according to your security policies, with Matrix V controllers that are able to communicate peer-to-peer, you will be able group any number of doors to be interlocked and interlinked with Anti-passback, throughout the system to do just what you need.



- Clock Access Rights: While maintaining standard Door Access Rights for different groups of people at different times of the day, Matrix V takes its one step further to implement Clock Access Rights allow different groups of people to Clock IN and OUT at specific locations at different times of the day, to achieve better productivity and prevent errant employee behaviour.
- System Reaction Management: You can also pre-program your own System Reactions for Matrix V. It enables the system to intelligently react in multiple specific periods and locations according to how events occur. System reactions are very flexible and robust and can be easily programmed for any purpose one can think of. Any device attached to the system such as security doors or alarms and third party equipment connected to the Matrix V system, such as fire detectors, lights, air-conditioning, etc. can be programmed under the System Reaction Manager.

Putting you in Absolute Control

Manage, Monitor and Control from One Location or Many

- Monitor and manage your entire security system from an unlimited number of workstations or Mobile Devices connected to Matrix V Integrated Security Management System through a TCP/IP Local/Wide Area Network or remotely through the Internet.
- Set Matrix V system access rights for each user to restrict what functions are accessible by whom and protect those access rights with biometric login or encrypted user login and passwords.
- Receive and respond to alarms promptly through highlighted pop-up dialog boxes. You may also enable, disable and otherwise give commands to any security device on your network with just a few clicks of the mouse.
- Record all activity in your security system, both routine (eg. normal access to the IT department) and extraordinary (eg. Invalid entry, Device Failure, etc.). System activity and statistical reports can be automatically generated on demand.

Instantaneous Results

Keep Track of Everyone's Whereabouts

Instantly receive a breakdown of the number of people in any area of the security system. Know details such as:

- How many people are in that area.
- Credentials of each person on location.
- Log & monitor the duration a person has been at a location.

This information is logged in the transaction database and can be retrieved for analysis at a later time.

Dealing with Emergencies

Design your security system to respond to emergencies according to your disaster management & recovery policies. Any relay controlled output device such as sirens, entry-exit points, lights, communication lines, etc. may be programmed to activate in response to direct user commands or an automatically detected emergency

For example, should your security system sensors detect an emergency, it can automatically:

- Set off audible alarms and alarm signals and inform all personnel.
- Page, SMS or Alert relevant authorities such as the fire brigade or police.
- Disarm Fire Exit doors & Lockdown fire threat areas.
- Perform mustering reporting.

Organize an evacuation of the premises by determining the locations and number of persons currently present in the building by providing instructions to evacuate the building via "mustering stations". These stations will gather the information of the evacuees successfully evacuated from the building. The system can be programmed to be intelligent to suggest evacuation routes that avoid "danger" areas which have triggered sensors within them, as well as tally personnel who have mustered and who might be left behind in the premises.



Third Party CCTV Integration

By integrating third-party CCTV with Matrix V, customers can realize a true, event-driven system architecture whereby automated security is enabled by linking real-live security-related events. Event video can be monitored & streamed to the Security Director without the need initiate a search for the video.

Third-party CCTV & Matrix V Security Manager communicates the status of video recorders and cameras, illustrates alarm location with the use of multimedia graphical maps, and enables operators with in-view PTZ control, auto-launch of video on alarm and camera touring - all on a single platform to provide a "bird's eye view" of the entire security & surveillance system

Comprehensive Credential Management System

Matrix V also comes with a comprehensive credential management system, which enables you to set up basic User Cards with User Details, Anti-Passback options, Card Expiry and Access Time Zones. All card access is logged, and cardholders can be traced down and located according to the last zone they accessed with their cards. Matrix V supports storage for an unlimited number of card details on-server, while each 5000 Series Controller can store up to 1,000,000 User IDs.

Matrix V also supports special card functions:

Escort Cards - Certain highly sensitive areas may be equipped with an extra layer of protection through the use of dual-card doors. Such doors can only be accessed by a holder of a normal user card and another special Escort card, which, for example, may be held by a security officer posted at the door entry point or a trusted executive officer.

Guard Tour - Guard Tour cards are used specifically with the Guard Tour Module previously described.

Emergency Response Prompter

Emergency Response Prompter is activated upon Matrix V detecting a pre-determined event on the security system, such as a forced door. It suggests courses of action to the guards or system operator, such as:

- 1.Summoning the police.
- 2.Deploying guards at the alert location and along the intruder's possible route(s).
- 3.Sealing off nearby doors and alerting/evacuating staff.

This function is meant to supplement the normal training provided to security personnel when responding to such situations by providing a checklist of critical actions that need to be taken.

Popular Compatible Reading Technology Listing

Abbreviation	Format	Technology
WIEG	WIEGAND 26-bit	Proximity, Smartcard, Biometric
ELID	ELID Proprietary	Magnetic
PROX	HID Format	Proximity, Smartcard, Biometric
FWEI	Free-form WIEGAND	Proximity, Smartcard, Biometric
ABAF	ABA Format	Magnetic
BC39	3 of 9	Barcode
BC25	2 of 5	Barcode

Maximum Data Cable Communication Range

Device Connection	Maximum Range	Cable Type
5000 series Controller to Hub	100 meters	Shielded four twisted pair 24 AWG copper
5000 series Controller to Reader Interface Unit (RIU)	1 Kilometer (to last RIU in the daisy chain)*	Shielded one twisted pair 4 AWG copper
5000 series Controller to Wiegand Readers	150 meters	2x Shielded four twisted pair 18 AWG copper
Reader Interface Unit to Door Reader with Display and Keypad	40 meters	Shielded standard 8-core screened copper cable (16/0.2mm)
5000 series Controller to Electronic Field Device	1Kilometer (to last unit in the daisy chain)	Shielded 2 twisted pair screened copper cable (16/0.2mm)

Matrix V Command Centre & Client Specifications:

*TCP/IP Protocol Network Infrastructure Required

*Computer Platform Requirements:.

Minimum Server Platform Requirements:

Processor:	Intel Xeon E3 Processor 3.5 GHz
RAM:	8 GB
Hard Disk:	1 TB
Operating System:	Microsoft Windows Server 2016 with latest Service Pack
Others:	Microsoft SQL Server 2016 (with latest Service Pack) FHD LCD Monitor with resolution set to High Color (32-bit) 1920 by 1080 and optional DVD Drive

Minimum Client Platform Requirements:

Processor:	Intel Core i5 Processor 2.8 GHz
RAM:	8 GB
Hard Disk:	256 GB (recommend to use SSD)
Operating System:	Microsoft Windows 7/10 Professional Edition with Latest SP
Others:	FHD LCD Monitor with resolution set to High Color (32-bit) 1920 by 1080 and optional DVD Drive

*Printer: Any Microsoft Windows compatible printer

*Maximum number of Matrix V workstations: 64

System Capability:

*Maximum number of ID Digits Supported: 10

*Maximum number of Access Portals: 8000

*Maximum number of floors per lift: 128

*Maximum number of sensor points: 208,000

*Maximum number of output points: 344,000

*Maximum number of cardholders on database: Limited to Disk Space

*Maximum number of system operators: Unlimited

*Operator Access Rights: Unlimited

*Maximum number of preset timers : 99

*Maximum number of preset times zones: 99

*Maximum number of Holidays: 40

*Maximum number of logged system transactions: Limited to Disk Space

SYSTEM RANGE



EL5030 NETWORKED CONTROLLER

Model	EL5030
Manufacturer	ELID Sdn Bhd
Country of Origin	Malaysia
CPU	32-bit Intel Microprocessor
Card Users	15,000 (upgradable to 300,000 with EM6 Memory Module)
Access Mode	Card, PIN & Card + PIN, PIN Only
Standalone Operation	YES
Real-Time Scanning	YES
Tamper Detection	YES
Display	Backlit LCD 20x2 characters
Function Keys	4
Connectivity	TCP/ IP, RS485
No of RS485 BUS	1 (Upgradable to 2 with EB2 Module)
Applications	Door, Car Park, Time Clocking (Centralized or Field Deployment)
Max. Doors Supported	8
Type of Readers Supported	i. Barcode, Magnetic, Proximity, Smart Cards, Biometrics (Field) ii. Proximity, Smart Cards, Biometrics, (Centralized)
Max. Readers Supported	i. 10 (5 IN and 5 OUT Readers)- Centralized ii. 16 (8 IN and 8 Out Readers)- Field Deployment
Max. RIU Supported	8 units of ER502 OR EK9i/EA9i 4 units of ER505
Max. EFD Supported	8 units of EFD32 or EFD80
Expansion Slot	Yes (EA202 centralized 2-door extender or EM6 Memory Module)
Operating Temperature	0°C to 60°C
Humidity	10% to 90% non-condensing
Power Requirements	12VDC with 1.5 Amp Charger
Casing Dimensions	380 (H) x 330 (W) x 90 (D) mm
Approximate Weight	5 kg with casing and Power Supply



EL5030L LIFT CONTROLLER

Model	EL5030L
Manufacturer	ELID Sdn Bhd
Country of Origin	Malaysia
CPU	32-bit Intel Microprocessor
Card Users	30,000 (upgradable to 300,000 with EM6 Memory Module)
Standalone Operation	YES
Real-Time Scanning	YES
Tamper Detection	YES
Display	Backlit LCD 20x2 characters
Function Keys	4
Connectivity	TCP/ IP, RS485
No of RS485 BUS	2
Max. Floors	128
Max. Lift Readers Supported	4 (64 floors) or 2 (128 floors)
Type of Readers Supported	Proximity, Smart Cards, Biometrics
Max. RIU Supported	4 units of ER502
Max. EFD Supported	8 units of EFD32 (or EFD30)
Expansion Slot	Yes (EM6 Memory Expander)
Operating Temperature	0°C to 60°C
Humidity	10% to 90% non-condensing
Power Requirements	12VDC with 1.5 Amp Charger
Casing Dimensions	380 (H) x 330 (W) x 90 (D) mm
Approximate Weight	5 kg with casing and Power Supply



EL5030FB TURNSTILE CONTROLLER

Model	EL503FB
Manufacturer	ELID Sdn Bhd
Country of Origin	Malaysia
CPU	32-bit Intel Microprocessor
Card Users	30,000 (upgradable to 300,000 with EM6 Memory Module)
Standalone Operation	YES
Real-Time Scanning	YES
Tamper Detection	YES
Display	Backlit LCD 20x2 characters
Function Keys	4
Connectivity	TCP/ IP, RS485
No of RS485 BUS	2
Max. Turnstiles	8 lanes (8 entry 8 exit)
Lane Direction Indicator	Yes
Dedicated Visitor Lane	Yes
Type of Readers Supported	Proximity, Smart Cards, Biometrics
Max. RIU Supported	8 units of ER502
Expansion Slot	Yes (EM6 Memory Module)
Operating Temperature	0°C to 60°C
Humidity	10% to 90% non-condensing
Power Requirements	12VDC with 1.5 Amp Charger
Casing Dimensions	380 (H) x 330 (W) x 90 (D) mm
Approximate Weight	5 kg with casing and Power Supply



ER502 SINGLE-DOOR READER INTERFACE UNIT

Model	ER502
Manufacturer	ELID Sdn Bhd
Country of Origin	Malaysia
CPU	16-bit Microcontroller
Communication	2 wires RS485 with built-in Fault Protection
Baud Rate	9600bps
Protocol	Peer-to-peer collision detection protocol (E-BUS)
Max. Doors Supported	1 Door
Standalone Operation	No
Modes of Operation	Card, PIN, Card + PIN, Time Attendance Mode
Status Detection	Tamper, Battery Low and AC Fail
Type of Reader Supported	Proximity (HID, EM, ELID, MiFare, Barcode 3of9 and ITF)
Max. Readers Supported	2 (one IN and one OUT)
Matrix 4x4 Pin pad support	No
Unit Number Indicator	Yes
Onboard I / O Capacity	2 Sensor Inputs and 2 General-purpose Outputs
External I / O Capacity	1 x EA8 (2 Inputs and 6 Outputs)
Operating Temperature	0°C to 60°C
Humidity	10% to 90% non-condensing
Power Requirements	12VDC 100mA excluding reader
Recommended	
Casing Dimensions	380 (H) x 330 (W) x 90 (D) mm
Approximate Weight	5Kg



ER505 TWO-DOOR READER INTERFACE UNIT

Model	ER505
Manufacturer	ELID Sdn Bhd
Country of Origin	Malaysia
CPU	8-bit Microcontroller
Communication	2 wires RS485 with built-in Fault Protection
Baud Rate	9600bps
Protocol	Peer-to-peer collision detection protocol (E-BUS)
Max. Doors Supported	2 Door
Standalone Operation	No
Modes of Operation	Card, PIN, Card + PIN, Time Attendance Mode
Status Detection	Tamper, Battery Low and AC Fail
Type of Reader Supported	Proximity (HID, EM, ELID, MiFare, Barcode 3of9 and ITF)
Max. Readers Supported	4 (2 IN and 2 OUT)
Matrix 4x4 Pin pad support	Yes
Unit Number Indicator	No
Onboard I / O Capacity	N/A
External I / O Capacity	2 x EA8 (2 Inputs and 6 Outputs each)
Operating Temperature	0°C to 60°C
Humidity	10% to 90% non-condensing
Power Requirements	12VDC 0.5A excluding reader
Recommended	
Casing Dimensions	380 (H) x 330 (W) x 90 (D) mm
Approximate Weight	5Kg



EA9i BIOMETRIC INTERFACE UNIT

Model	EA9i
Manufacturer	ELID Sdn Bhd
Country of Origin	Malaysia
CPU	16-bit Microcontroller
Communication	2 wires RS485 with built-in Fault Protection
Baud Rate	9600bps
Protocol	Peer-to-peer collision detection protocol (E-BUS)
Max. Doors Supported	1 Door
Standalone Operation	No
Modes of Operation	Biometric or Card Only
Status Detection	N/A
Type of Reader Supported	Proximity (HID, EM, ELID, MiFare, Barcode 3of9 and ITF)
Max. Readers Supported	2 (one IN and one OUT)
Matrix 4x4 Pin pad support	No
Unit Number Indicator	No
Onboard I / O Capacity	2 sensor inputs 1 general-purpose output
External I / O Capacity	N/A
Operating Temperature	0°C to 60°C
Humidity	10% to 90% non-condensing
Power Requirements	12VDC 100mA excluding reader
Recommended Casing	
Board Dimensions	70 (H) x 75 (L) mm
Approximate Weight	200grams



EK9i LCD DISPLAY READER INTERFACE UNIT

Model	EK9i
Manufacturer	ELID Sdn Bhd
Country of Origin	Malaysia
CPU	16-bit Microcontroller
Display	Backlit LCD 20 x 2 characters
Keypad	12 keys rubber
Communication	2 wires RS485 with built-in Fault Protection
Baud Rate	9600bps
Protocol	Peer-to-peer collision detection protocol (E-BUS)
Max. Doors Supported	1 Door
Standalone Operation	No
Modes of Operation	Card, Card+PIN, PIN Only
Status Detection	Tamper only
Type of Reader Supported	Proximity (HID, EM, ELID, MiFare, Barcode 3of9 and ITF)
Max. Readers Supported	2 (one IN and one OUT)
Matrix 4x4 Pin pad support	No
Unit Number Indicator	No
Onboard I / O Capacity	2 sensor inputs 1 general-purpose output
External I / O Capacity	N/A
Operating Temperature	0°C to 60°C
Humidity	10% to 90% non-condensing
Power Requirements	12VDC 500mA excluding reader
Recommended	
Dimensions	90 (H) x 100 (W) x 38 (D)mm
Approximate Weight	600grams



EFD32 FOR DSC (32-FLOOR SELECTOR UNIT)

Model	EFD32
Manufacturer	ELID Sdn Bhd
Country of Origin	Malaysia
CPU	32-bit Microcontroller
Onboard Supervised Inputs	N/A
Onboard Relay Outputs	32 Output Points
Output Expansion Capacity	N/A
Power Supply	12VDC @ 500mA
Built-in Tamper Detection	Yes
Operating Temperature	0°C to 50°C
Humidity	10% to 90% non-condensing
Casing Dimensions	400 (H) x 405 (W) x 125 (D) mm
Approximate Weight	5Kg



EFD80 (16 INPUTS BY 8 OUTPUTS EXPANDER)

Model	EFD80 (ES 1608)
Manufacturer	ELID Sdn Bhd
Country of Origin	Malaysia
CPU	8-bit Microcontroller
Onboard Supervised Inputs	16 Input Points
Onboard Relay Outputs	8 Output Points
Output Expansion Capacity	24 Output Points
Power Supply	12VDC
Built-in Tamper Detection	YES
Operating Temperature	0°C to 50°C
Humidity	10% to 90% non-condensing
Recommended Casing Dimensions	400 (H) x 405 (W) x 125 (D) mm
Approximate Weight	5Kg



For more information: Check out the website at www.elid.com, or contact our dealers. ELID has a policy of continuous research and development, and reserves the right to change specifications without notice.